Volvulus and Gangrene of the Cecum in a Patient with Ulcerative Colitis

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THE SURGICAL COMPLICATIONS of ulcerative colitis are numerous and varied in nature. Instances have been reported of abscess,[1] peritonitis,[1] fistulae,[2] perforation,[3] hemorrhage[4] and stenosis.[5] A report of a case in which gangrene of the cecum also developed is presented here both because of its rarity and because it points up the necessity of constant observation in cases of ulcerative colitis.

REPORT OF A CASE

The patient, a 66-year-old white woman who had been receiving therapy for ulcerative colitis for some seven years was examined because of sudden onset of severe cramping pain in the lower abdomen about two hours after she had eaten lunch. She felt nauseated but had not vomited.

The patient appeared to be acutely ill and dehydrated. The pulse rate was 100, and the blood pressure was 120/60 mm. of mercury. The rectal temperature was 101° F.

The abdomen was decidedly distended and exquisite tenderness to palpation was noted throughout the entire abdominal wall. No peristalsis could be heard.

Leukocytes numbered 50,600 per cubic millimeter —with neutrophils 94 per cent (10 per cent stab forms) and lymphocytes 4 per cent. The hemoglobin content was 14 grams per 100 cc. and erythrocytes numbered five million per cubic millimeter. The results of urinalysis were within normal limits.

X-ray films of the abdomen showed a pronounced distention of intestinal loops. The impression was that the involved dilated loops were those of the terminal small intestine and ascending colon. No gas pattern could be made out in the areas of the descending colon or rectum. The roentgenographic diagnosis was intestinal obstruction involving the terminal small bowel and ascending colon. The possibility of a volvulus was considered.

During the seven years the patient had been under treatment for ulcerative colitis (therapy consisting of special diets and supportive care) she occasionally had had episodes of bloody diarrhea which abated rapidly. At no time had the possibility of surgical intervention been considered, the general health of the patient having continued to be good.

Laparotomy was performed approximately two hours after the onset of symptoms. A right pararectus incision was made and a tremendously dilated cecum came immediately into view. There were extensive gangrenous changes throughout the entire cecal wall. The inferior pole of the cecum was adherent to the pelvic floor in the hollow of the sacrum. Complete volvulus of the cecum and terminal 12 inches of ileum had occurred, with the fixed adherent cecal wall acting as a point of rotation for the volvulus. The small bowel proximal to the volvulus was only moderately distended. The ascending colon above the volvulus was flat and completely collapsed. Apparently, small bowel content was entering into the cecum and was prevented from flowing into the ascending colon by the volvulus. Furthermore, the ileocecal valve was obviously competent and the intestinal content could not escape backward into the terminal ileum. As a result, the cecum had become progressively more distended, with resultant vascular changes in the cecal wall. The cecum was easily separated by finger dissection from its point of adherence on the pelvic floor. When the cecum was freed, there was an immediate resolution of the volvulus, and the ascending colon filled with gas and intestinal content. The terminal ileum was viable. However, as the gangrenous changes in the cecum were irreversible, the cecum was resected. An end-to-end anastomosis was then made between the terminal ileum and the ascending colon.

Pathologist's Report

Extensive gangrenous changes were found throughout the cecal wall. No definite evidence of perforation was seen externally. However, an indurated area approximately 2 cm. in diameter was present in the area of the wall which had been found to be adherent to the pelvic floor at operation. Here again, no definite point of perforation was seen. However, the tissue was decidedly indurated and friable. When the cecum was opened, an ulcer crater was seen in the mucosal wall corresponding to the above described area on the outside of the cecal wall. The ulcer was approximately 1 cm. in diameter and 2 to 3 mm. deep. The floor of the ulcer was gray and the edges appeared to be undermined. Ad-

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jacent to the ulcer and throughout the mucosa of the cecum were multiple elevated grayish plaques with innumerable small ulcerations between them.

Microscopic sections through the cecal ulcer showed that the mucosal epithelium terminated rather acutely and was replaced by an ulcer floor consisting of collections of polymorphonuclear leukocytes. The cecal wall was almost completely destroyed. The inflammatory cells extended directly to the serosa. There was no muscularis or mucosal layer. A thin fibrinal purulent exudate came from the serosa. Sections throughout the remainder of the cecal wall showed similar small ulcerations of lesser severity. The pathological diagnosis was ulcerative colitis with gangrene of the cecum.

SUMMARY

A unique case of gangrene of the cecum owing to volvulus, in a patient who had ulcerative colitis, is presented. Bowel resection was necessary. The case draws attention anew to the necessity for careful observation for complications in patients with ulcerative colitis.

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Tuberculosis of the Duodenum

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THE INCIDENCE OF TUBERCULOSIS in all forms has decreased since the advent of drugs specific for the disease, and tuberculosis of the duodenum is now more than ever a rarity. Matthews, Delaney, and Dragstedt[4] cited a report by Paerry and Shaw in 1894 that only 11 cases of duodenal tuberculosis were noted in a review of 17,652 autopsies that had been done at Guys Hospital over the previous 66-year period. They also cited Fenwick and Dodwell who in 1892 reported 500 cases of intestinal tuberculosis in 2,000 autopsies of patients with pulmonary tuberculosis, only 17 of the 500 having duodenal tuberculosis. Also quoted was Gossmann, who in 1913 noted five cases of duodenal tuberculosis in reviewing 2,360 autopsies of patients with tuberculosis. In the same communication in which they cited these reports, Matthews and co-workers added reports of 18 cases of duodenal tuberculosis, making 123 cases that had been reported in the literature up to 1932.

In 1931, Good (cited by Ostrum[6]) reported an incidence of 0.34 per cent of gastric tuberculosis in autopsies and gastric resections at the Mayo Clinic. Reeves[7] reported a case of tuberculosis of the duodenal bulb in 1931. In the Case Records of the Massachusetts General Hospital in 1942, Mallory[3] reported a tuberculous ulcer in the third portion of the duodenum, communicating with a retroperitoneal abscess cavity, associated with miliary tuberculosis. Migliaccio[5] in 1946 reported a case of tuberculosis of the third portion of the duodenum. Two years later Ostrum and Serber[6] reported two cases of duodenal tuberculosis, and in 1954 Anderson, Pontius and Witkowski[1] wrote of a case in the duodenal bulb.

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REPORT OF A CASE

The patient, a 51-year-old Filipino, entered Wadsworth Hospital July 11, 1955, with chief complaints of epigastric pain for one year, with some relief on ingestion of food, and a 6-pound loss of weight in three months. There was one episode of a tarry stool. An upper gastrointestinal radiographic study done elsewhere one year before was said to show a duodenal ulcer. Upon physical examination, mild tenderness in the epigastrium was noted. No abnormalities were noted on examination of the blood and urine, and the serum amylase content was within normal limits.

Upper gastrointestinal radiographic studies were interpreted as showing an ulcerating and apparently infiltrating destructive mucosal lesion of the second portion of the duodenum (Figure 1). This was interpreted as suggestive for carcinoma of the duodenum with other possibilities being carcinoma of the ampulla of Vater or pancreas. A roentgenogram of the chest showed no abnormality.

At operation, July 19, an infiltrating lesion was observed in the descending duodenum. There were large nodes along the portal vein and hilus of the liver. Biopsy specimens were taken from thickened mucosal folds of the second portion of the duodenum and frozen sections were reported as showing possibly lymphosarcoma. A frozen section of a lymph node from the hilus of the liver showed caseous tuberculosis. Subtotal gastrectomy was done. However, pathological study of the surgical specimens (Figures 2 and 3) revealed tuberculous duodenitis with caseation of draining lymph nodes. A pulmonary embolus developed postoperatively and bilateral saphenous and femoral vein ligation was carried out. Pancreatitis also developed, the blood